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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,063	08/01/2003	J. Joseph Allred	134358XZ (15022US01)	3586

23446 7590 02/08/2007

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EXAMINER	
BROWN, MICHAEL J	
ART UNIT	**PAPER NUMBER**
2116	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/633,063	ALLRED ET AL.	
	Examiner	Art Unit	
	Michael J. Brown	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which with subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuyama(US Patent 6,229,286), and further in view of Birleson(US Patent 7,171,176).

As to claim 1, Tokuyama discloses an adaptable power management system(charging controller, see Fig. 1; see column 3, line 64), the system comprising a plurality of measurement units(unit consumption current detection circuit 26, charging current detection circuit 8, and charging voltage detection circuit 9; see Fig. 1) for measuring current in an imaging system(operation circuit 11, see Fig. 1), each of the plurality of measurement units associated with one of a plurality of components(unit load 7, see Fig. 1) of the imaging system to measure current in the component, and a main system power(DC source 1, see Fig. 1) for providing

power to the imaging system for core system functions. Tokuyama also discloses a battery charger(charging circuit 14, see Fig. 1) for recharging a battery(secondary cell 4, See fig. 1) used for imaging, and a power controller(charging control circuit 2, see Fig. 1). However, Tokuyama fails to disclose the plurality of measuring units measuring current at a plurality of components in the imaging system nor the power controller dynamically allocating power among the main system power and the battery charger based on current measurements from the plurality of measurement units and imaging system configuration information.

Birleson teaches a plurality of measuring units(power control blocks 13, see Fig. 1) measuring current at a plurality of components(amplifiers 40 and 40', and mixers 30 and 30'; see Fig. 2) in a system(Environmental Adaptive Tuner System(EATS) 10, see Fig. 1). Birleson also teaches a power controller(power control 14, see Fig. 1) dynamically allocating power based on currents measurements from the plurality of measurement units and system configuration information(required performance level; see column 3, line 39)(see column 3, lines 36-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Tokuyama and Birleson in order to create a system which monitors multiple components within and based on information found allocate power appropriately to those components. The motivation to do so would be to consume power in the system by individually monitoring and allocating power to its components based on their current state.

As to claim 2, Tokuyama discloses the system wherein the measurement unit measures at least one of current and voltage at a plurality of points in the imaging system(see column 4, lines 28-32).

As to claim 3, Tokuyama discloses the system wherein the power controller controls battery charging current after main system power has been allocated(see column 4, lines 32-39).

As to claim 4, Tokuyama discloses the system further comprising at least one component providing additional function in the imaging system(see column 4, lines 41-50).

As to claim 5, Birleson teaches the system wherein the power controller allocates power among the at least one component(see column 3, lines 45-46).

As to claim 6, Birleson teaches the system wherein the power controller dynamically allocates power within a power limit(see column 8, lines 5-15).

As to claim 7, Tokuyama discloses a method for dynamic power management in an imaging system(operation circuit 11, see Fig. 1), the method comprising measuring current input in an imaging system(operation circuit 11, see Fig. 1). However Tokuyama fails to disclose the method comprising measuring current usage at a plurality of components in the imaging system, and dynamically allocating power in the imaging system based on a system configuration, the current usage, and the current input in the imaging system.

Birleson teaches a method comprising measuring current usage at a plurality of components(amplifiers 40 and 40', and mixers 30 and 30'; see Fig. 2) in a system(Environmental Adaptive Tuner System(EATS) 10, see Fig. 1), and dynamically allocating power in the imaging system based on a system configuration(required performance level; see column 3, line 39), the current usage, and the current input in the imaging system)(see column 3, lines 36-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Tokuyama and Birleson in order to create a method which monitors multiple components within and based on information found allocate power appropriately to

those components. The motivation to do so would be to consume power in the system by individually monitoring and allocating power to its components based on their current state.

As to claim 8, Tokuyama discloses the method wherein the measuring step further comprises measuring at least one of voltage and current at a plurality of locations in the imaging system(see column 4, lines 28-32).

As to claim 9, Birleson teaches the method wherein the allocating step further comprises dynamically allocating power based on system usage(see column 3, lines 36-39).

As to claim 10, Birleson teaches the method further comprising re-allocating power in the imaging system based on a change in configuration(see column 3, lines 36-39).

As to claim 11, Birleson discloses the method further comprising re-allocating power in the imaging system based on current consumption exceeding a predefined limit(see column 7, line 8- column 8, line 15).

As to claim 12, Tokuyama discloses the method further comprising allocating available current to a battery charger(see column 4, lines 28-39).

As to claim 13, Tokuyama discloses the method further comprising maintaining at least a minimum level of power for basic imaging system functions(see column 5, lines 4-35).

As to claim 14, Tokuyama discloses the method further comprising controlling an amount of current drawn by components in the imaging system(see column 5, lines 4-35).

As to claim 15, Tokuyama discloses a power management system(charging controller, see Fig. 1; see column 3, line 64) for an imaging system comprising a power input(DC source 1, see Fig. 1) providing power to an imaging system(operation circuit 11, see Fig. 1), at least one measurement unit(unit consumption current detection circuit 26, charging current detection

circuit 8, and charging voltage detection circuit 9; see Fig. 1) for measuring current in the imaging system, and a power management controller(charging control circuit 2 and operation circuit 11, see Fig. 1). However, Tokuyama fails to disclose the power management controller allocating available power among components in the imaging system based upon system configuration, wherein the system configuration includes at least one of a selected imaging mode of operation, a number of components in use, component consumption, available input current and a cord current capacity limit.

Birleson teaches a power management controller(power control 14, see Fig. 1 allocating available power among components(amplifiers 40 and 40', and mixers 30 and 30'; see Fig. 2) in a system(Environmental Adaptive Tuner System(EATS) 10, see Fig. 1) based upon system configuration(required performance level; see column 3, line 39), wherein the system configuration includes at least one of a selected imaging mode of operation, a number of components in use, component consumption, available input current and a cord current capacity limit(see column 3, lines 36-46). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions of Tokuyama and Birleson in order to create a power management controller which monitors multiple components within and based on information found allocate power appropriately to those components. The motivation to do so would be to consume power in the system by individually monitoring and allocating power to its components based on their current state.

As to claim 16, Tokuyama discloses the system wherein the power management controller allows a battery(secondary cell 4, See fig. 1) for the imaging system to charge at a

maximum rate based on current consumption by the components in the imaging system(see column 4, lines 36-39).

As to claim 17, Tokuyama discloses the system wherein the at least one measurement unit measures a voltage and a current for the power provided to the imaging system(see column 4, lines 28-32).

As to claim 18, Tokuyama discloses the system wherein the power management controller controls current drawn by the components in the imaging system(see column 4, lines 36-39).

As to claim 19, Tokuyama discloses the system further comprising a limit sensor for detecting when current consumption exceeds a certain limit(see column 4, lines 32-39).

As to claim 20, Tokuyama discloses the system further comprising at least one switching unit controlled by the power management controller, wherein the at least one switching unit controls an amount of power routed to at least one component in the imaging system(see column 4, lines 41-48).

As to claim 21, Birleson teaches the system wherein the imaging system configuration information includes at least one of a selected imaging mode of operation, a number of components in use, component current consumption, available input current and a cord current capacity limit(see column 3, lines 35-39).

Response to Arguments

2. Applicant's arguments, filed 11/21/2006, with respect to the rejection(s) of claim(s) 1-21 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection

has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tokuyama(US Patent 6,229,286) in view of Birleson(US Patent 7,171,176).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Brown whose telephone number is (571)272-5932. The examiner can normally be reached Monday-Thursday from 7:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571)272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael J. Brown
Art Unit 2116

REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
2/5/07